

PARTS LIST * AR-310 * CASE AND BACK PLANE CONNECTORS

<u>QUANTITY</u>	<u>DESCRIPTION</u>
1	Top, Wood
1	Bottom, Wood
2	End, Wood
1	Back, Masonite
10	22 Pin Connector
24	4-40 x 5/8" Screw
2	Connector Bar 1/2" square
1	Top Front Mounting Strip
1	Bottom Front Mounting Strip
4	1/2" x 1/2" Mounting Brackets-
4	4-40 Hex Nut
14	#4 x 1/2" Wood Screw
33	4-40 x 3/16" Screw

ARIES SYSTEM 300 MUSIC SYNTHESIZER

AR-310 CASE ASSEMBLY INSTRUCTIONS

REFER TO ASSEMBLY INSTRUCTIONS

() 1. Mount the four wooden cabinet pieces together. Use a good wood glue, preferably, although you may use screws or nails if you don't mind them showing. IMPORTANT! It is necessary to insure that the corners are square while the glue is drying. This may be done with a corner clamp, or any carpenter's square, etc. Notice that the backs of all four pieces have a $3/16$ " recessed notch along the edge, for the cabinet back to fit in. If using glue, allow to dry overnight !

() 2. Assemble the 10 connectors to the 2 square aluminum bars, using machine screws provided. Be sure that:

- a) The female sides of connectors point away from the bars (as shown in drawing)
- b) The letter "A" on each connector is in the same direction. The bar nearest the "A"'s will be the upper one. Tighten screws snugly enough to hold assembly together, but not too tightly to allow some movement of the bars.
- c) The space at the right end (from front view) has no connector.

() 3. Fasten one bracket to each end of each bar, as shown, using a machine screw and nut.

() 4. Locate two points on the inside of each cabinet side, near the back. Both points are $7/8$ " away from the recessed edge. One point is $1 \text{ } 1/16$ " below the inside cabinet top, and the other is 4" below the first ($5 \text{ } 7/16$ " total from top). Mark with pencil, and indent slightly with nail, punch, etc.

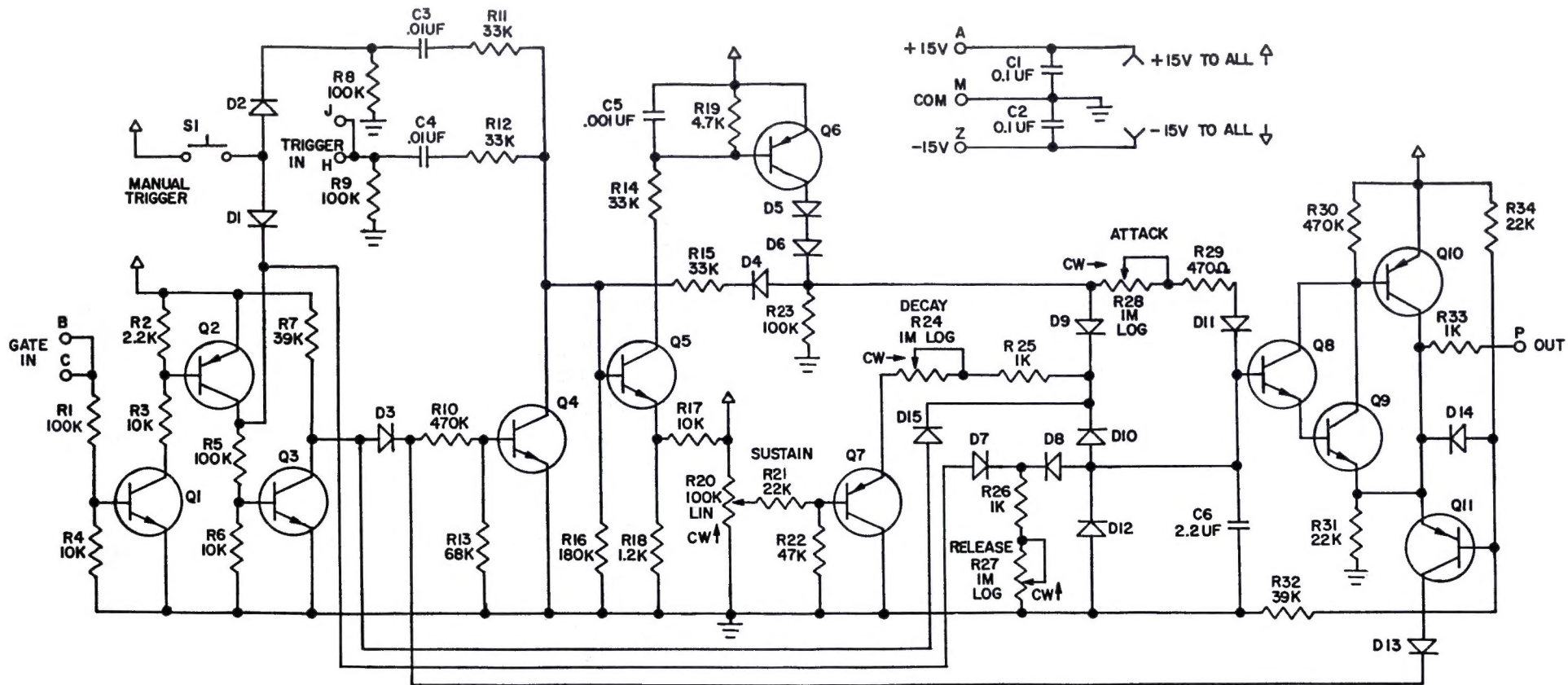
() 5. Slide the connector and bar assembly in as shown, and fasten with four wood screws to the points marked in step four.

() 6. There are two "L" shaped module mounting strips. The lower one has single holes; the upper one has double holes. Mount the lower one to the cabinet bottom with 3 wood screws. Make sure the front of this strip is $5/8$ " behind the cabinet front.

() 7. Mount the upper strip to the cabinet top, using 3 wood screws. This is also $5/8$ " in from the cabinet front.

() 8. If you have an Aries Synthesizer module already, or when you get one, check that it fits properly. Some slight re-positioning of the bars or mounting strips may be required.

() 9. The back panel may be screwed on if desired, after the synthesizer is wired up.



NOTE:

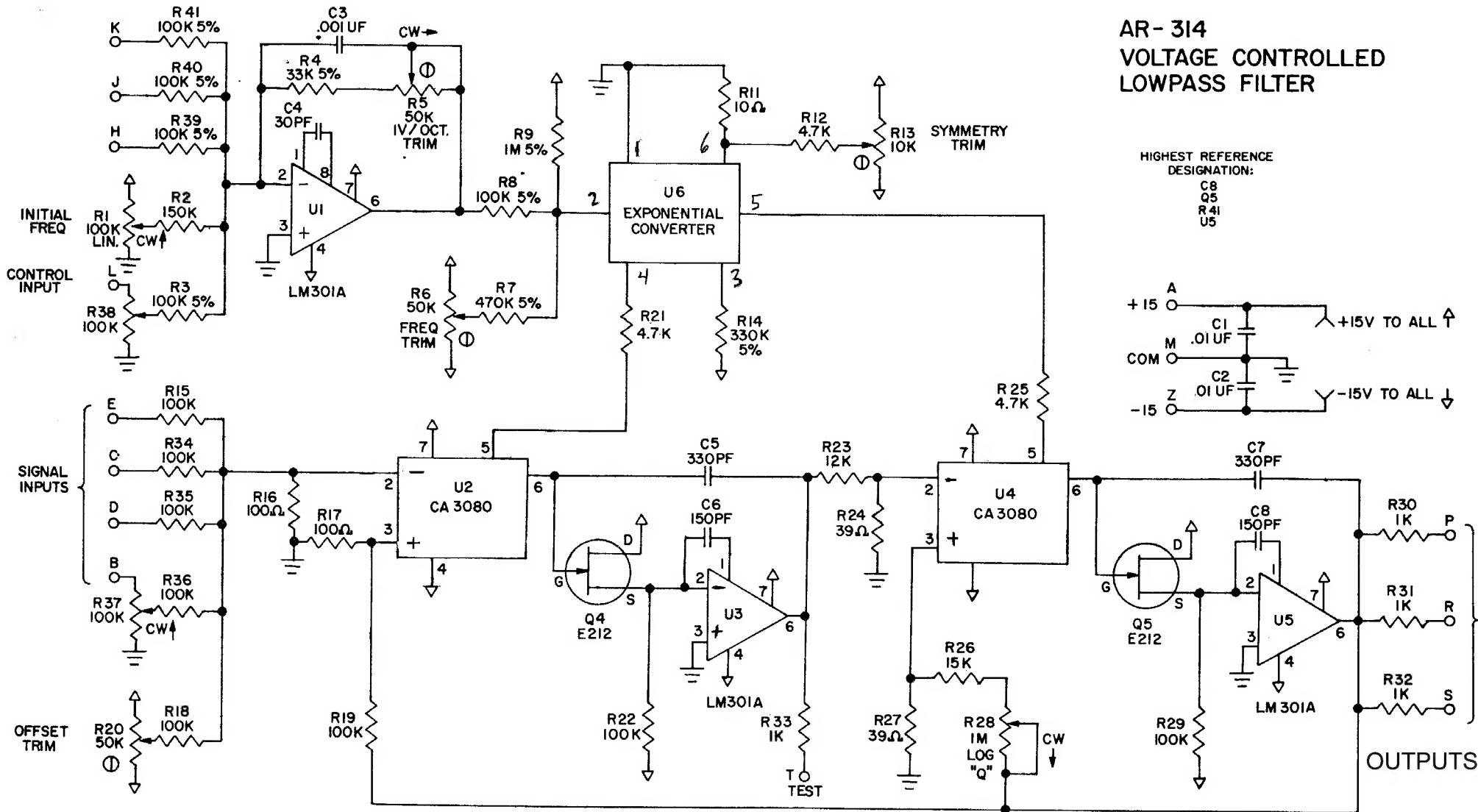
ALL DIODES ARE IN4148.
 ALL NPN TRANSISTORS ARE 2N3393.
 ALL PNP TRANSISTORS ARE 2N3638.

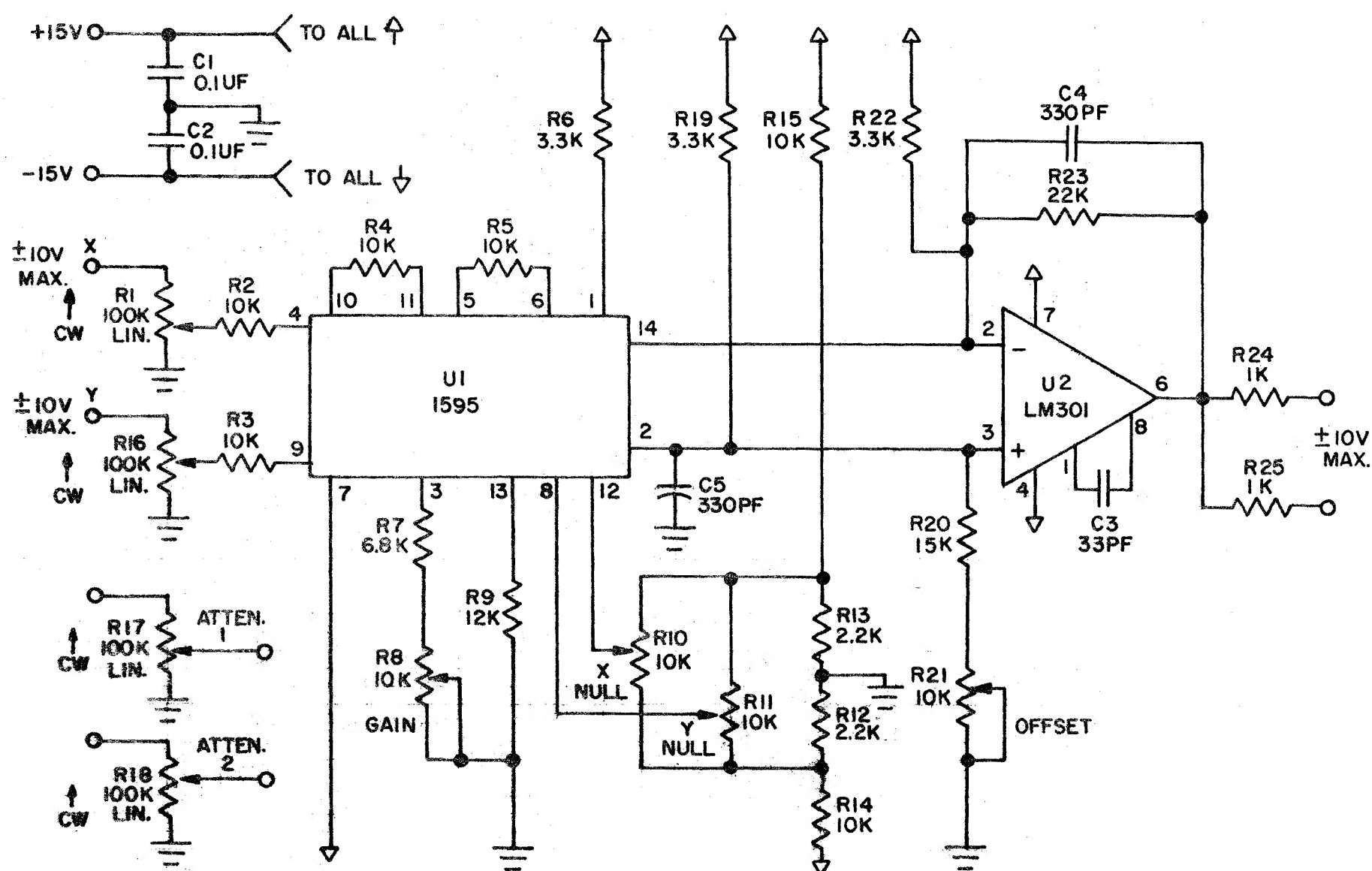
HIGHEST REFERENCE DESIGNATION:

C6 Q11 S1
 D5 R34

**AR-312
 ENVELOPE GENERATOR (ADSR)**

AR-314 VOLTAGE CONTROLLED LOWPASS FILTER

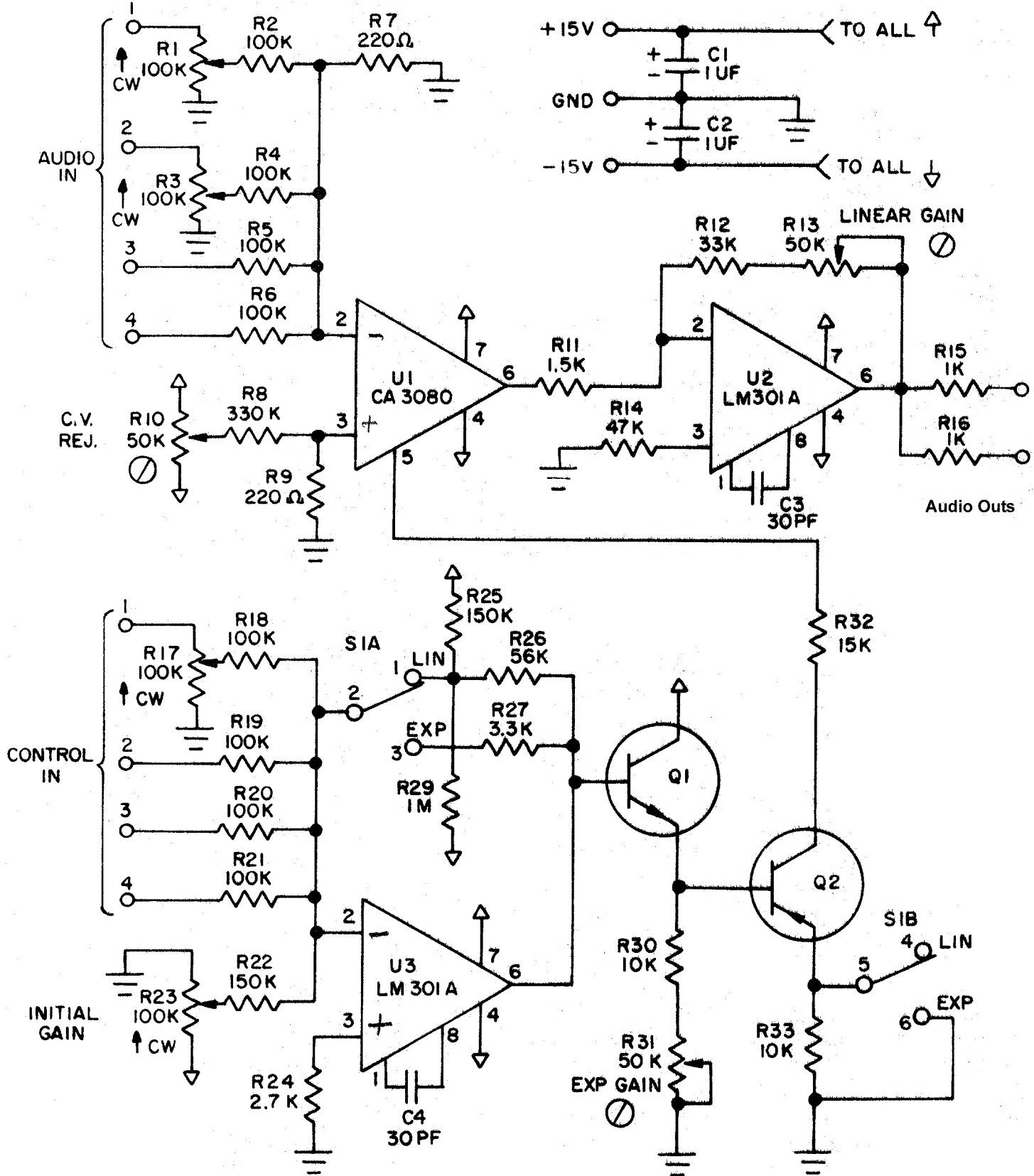




HIGHEST REFERENCE
DESIGNATION

J1 R25 C4 U2

AR-315
BALANCED MODULATOR

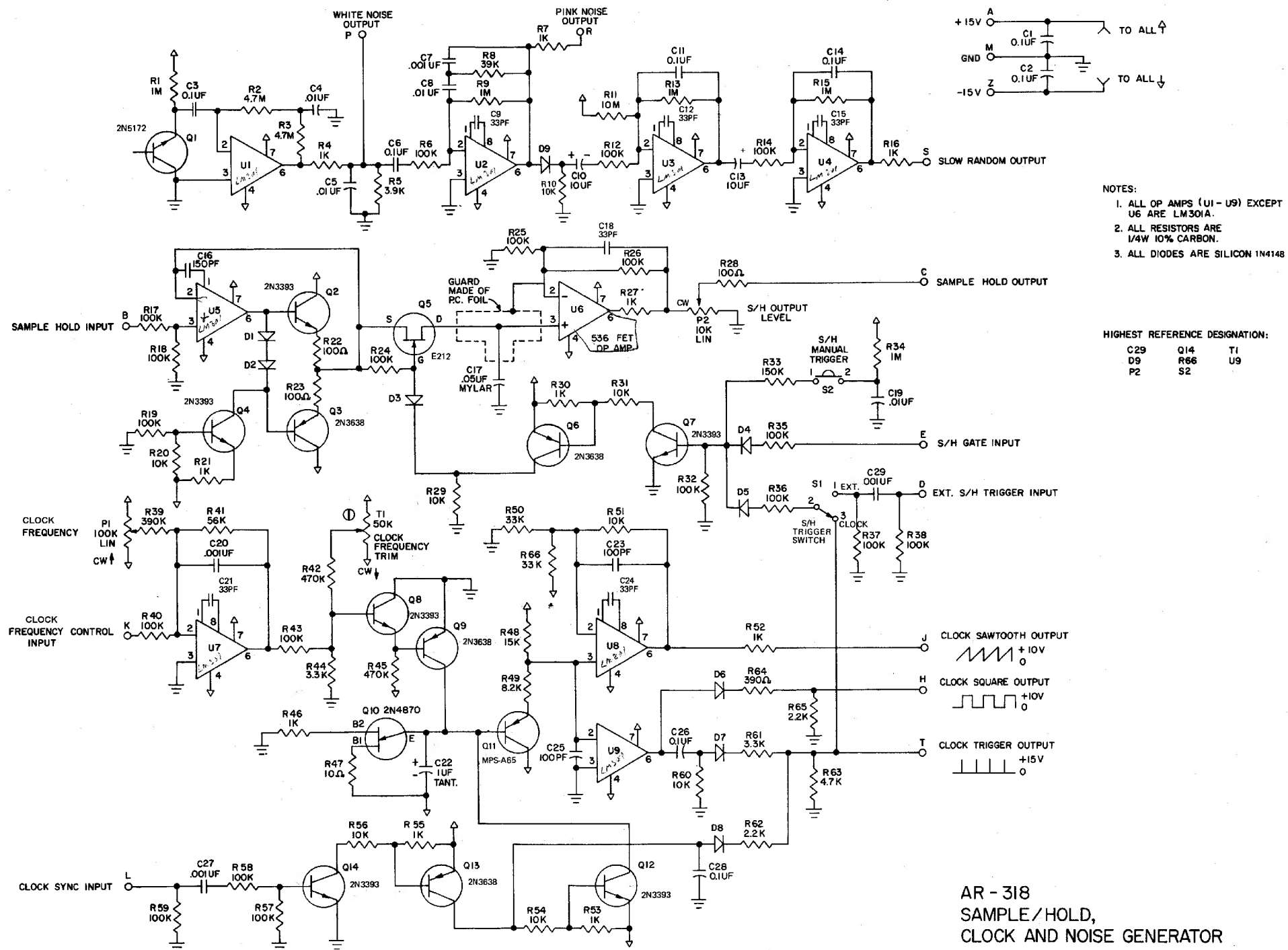


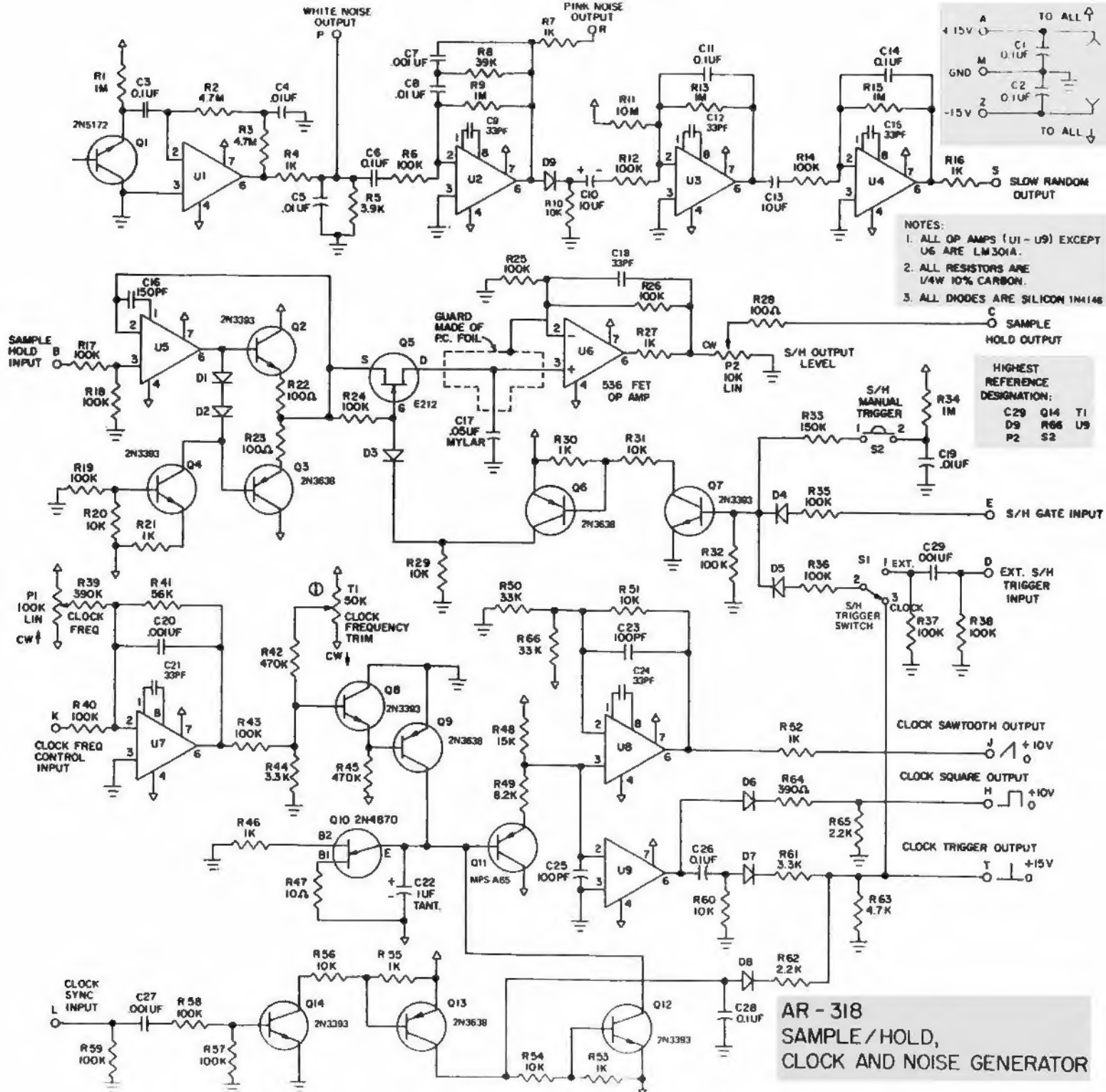
HIGHEST REFERENCE
DESIGNATION

C4 Q2 R33 S1 U3

AR-316

VOLTAGE CONTROL AMPLIFIER





AR-320 Keyboard Cabinet Assembly

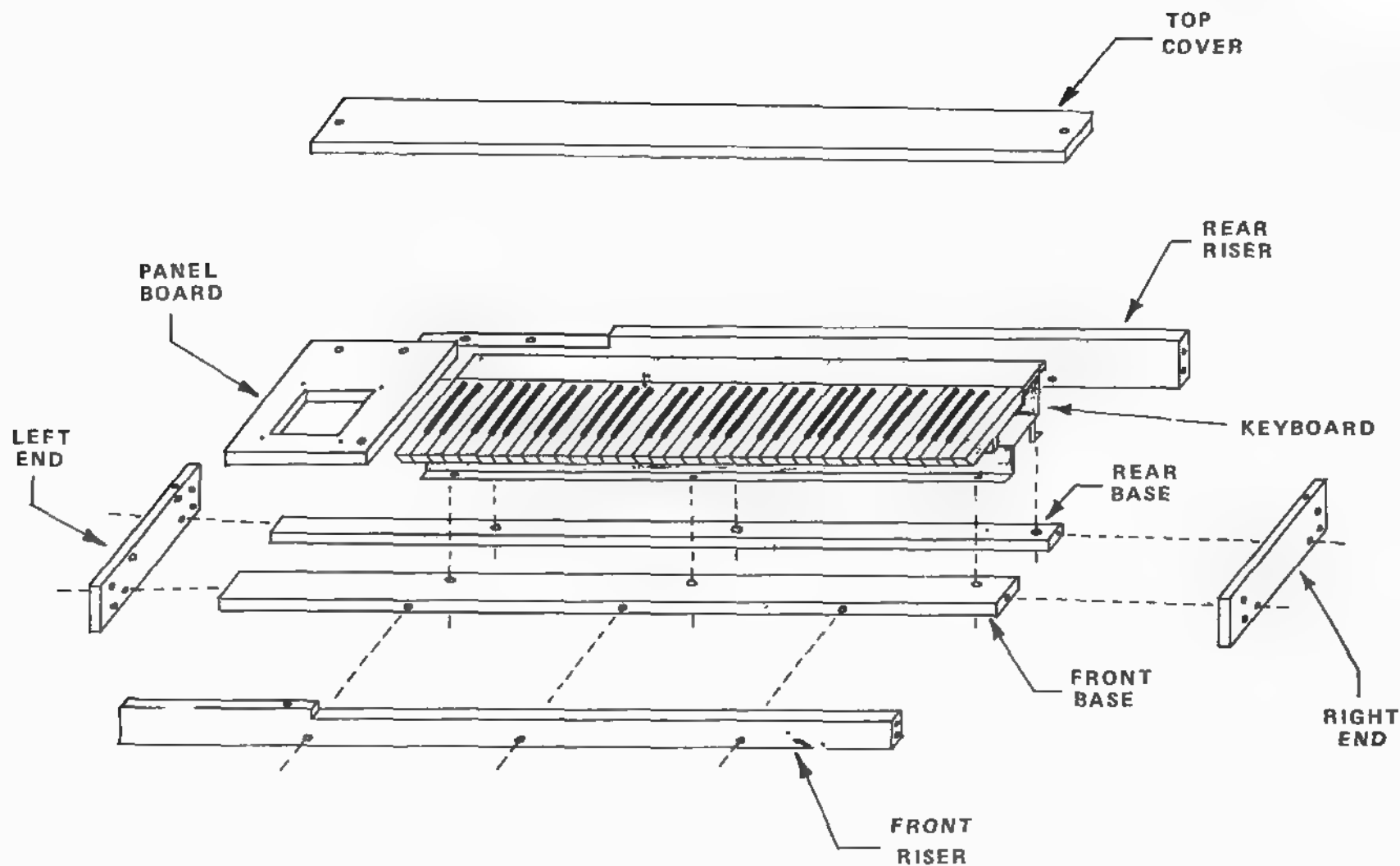
Refer to Cabinet Assembly Drawing (exploded view)

- () Attach end pieces (A & B) to rear riser (C). Backs of A & B should be flush with back of rear riser.
NOTE: Rear riser has 5 pre-drilled holes and one rolled rear edge.
- () Screw rear mount (D), recesses down to end pieces, then to rear riser.
- () Place front mount approximately in place.
- () Center keyboard over rear mounting holes. Attach with mount screws. Do same with front mount, then screw front mount securely to end pieces, trying to keep square with end pieces.
- () Screw front riser to front mount then to end pieces.
- () Screw rear of interface panel to rear riser. Fasten front of interface to front riser.
- () Attach top only if keyboard has been wired.

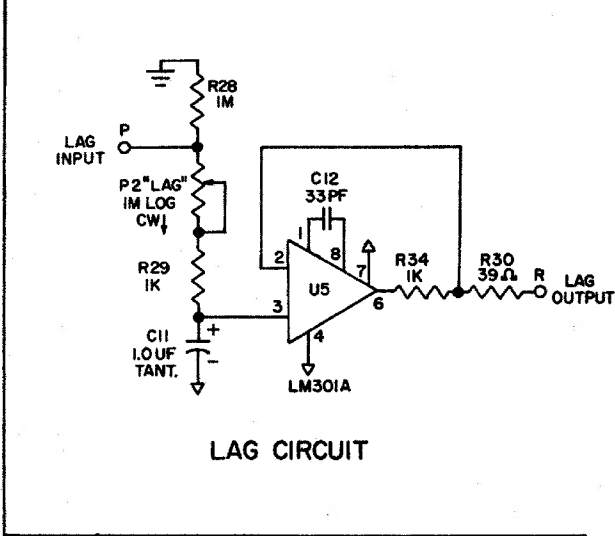
NOTE: Pilot holes should be drilled to facilitate assembly.

NOTE: NO allowance has been provided for heavy upholstery material. Allow for same during construction by moving front and rear risers outward enough to provide clearance for material used. (Not recommended)

KEYBOARD CASE IS NOW READY TO BE FINISHED AS DESIRED.



ARIES AR-311 KEYBOARD & AR-320 KEYBOARD CASE ASSEMBLY



The diagram shows an inverter circuit using an LM301A op-amp. The input is labeled "INVERTER INPUT" and is connected to a resistor P3 (100K LIN "GAIN") in series with a potentiometer CW. The wiper of the potentiometer is connected to the inverting input (pin 2) of the op-amp. A feedback resistor R31 (100K) connects the output (pin 6) back to the inverting input. The non-inverting input (pin 3) is connected to ground. The op-amp is powered by a 33pF capacitor C14 connected to the positive supply (pin 7) and a 120K resistor R32 connected to the negative supply (pin 4). A 150pF capacitor C13 is connected between the inverting input (pin 2) and the positive supply (pin 7). The output (pin 6) is connected to a 1K resistor R33, which is then connected to the "INVERTER OUTPUT" terminal T. The op-amp is labeled LM301A.

AR-324
LAG, INVERTER
AND
1/2 DUAL LOW FREQUENCY OSCILLATOR

